10. H20 Water Company

The H2O Water Company service area is located north of Combs Road, west of Schnepf Road, east of Maricopa County line and south of Germann Road. According to the ADWR Annual Water Withdrawal and Use Report, in the H2O Water Company service area in 1998, a total of 396 af of groundwater were pumped and delivered. Of that total, 102 af were delivered to other users. The remaining 294 af were delivered in the H2O Water Company service area.

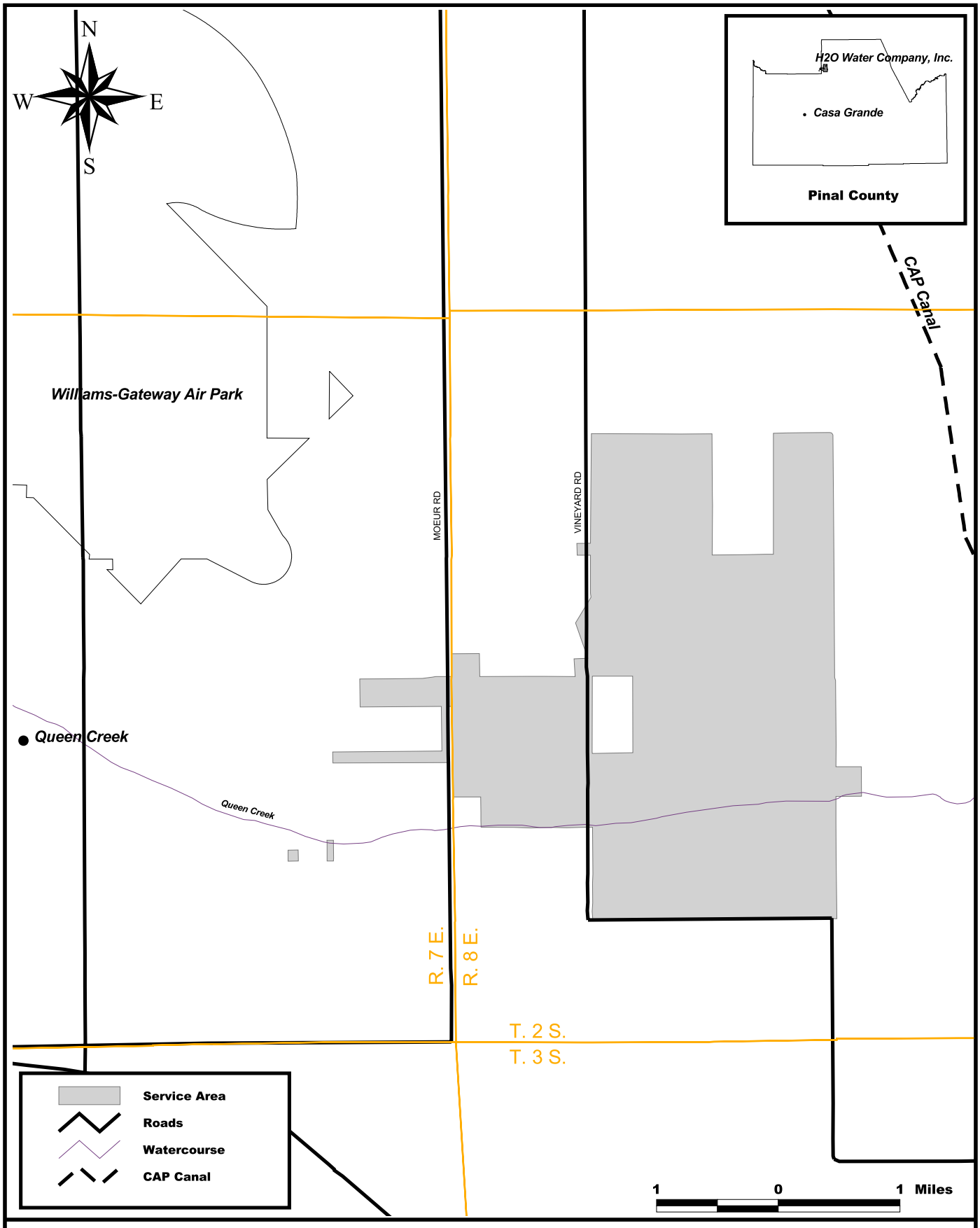
A. Plans to Take and Use CAP Water

The H2O Water Company currently has no contract for CAP water. Under the Settlement Alternative, the H2O Water Company would receive 147 af of CAP water. That CAP water would be delivered for a 50-year contract period (i.e., from 2001-2051). The CAP water would be used to supplement both current and projected water supply demands over the next 50 years and would help reduce the continuing dependence on pumping groundwater from an overdrafted groundwater system. Table L-M&I-57 outlines the proposed allocations by alternative.

Table L-M&I-57
CAP Allocation Draft EIS
H2O Water Company – Proposed CAP Allocation

Alternative	Allocation (in afa)	Priority
Settlement Alternative	147	M&I
No Action	0	-
Non-Settlement Alternative 1	147	M&I
Non-Settlement Alternative 2	0	-
Non-Settlement Alternative 3A	0	-
Non-Settlement Alternative 3B	161	NIA
Existing CAP Allocation	-	

Figure L-M&I-29 shows the service area for the H2O Water Company, which covers approximately 5,821 acres. The H2O Water Company is currently purchasing excess CAP water and wheeling it through the Queen Creek Irrigation District (QCID) system for delivery. This water is not treated and is used for non-potable industrial demands. The H2O Water Company could continue this arrangement or could use the City of Mesa's existing system to treat and wheel their CAP water. To connect to Mesa's system, the H2O Water Company would construct an eight-inch diameter pipeline in the Germann Road corridor one-mile long, from Vinyard to Meridian Roads. Assuming a 100-foot wide construction easement, this proposed pipeline would disturb approximately 15 acres (Schnepf 2000).



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CAP Allocation Draft EIS
General Location Map
H2O Water Company

June 2000

Figure #L-M&I-29

B. Population Projection

The estimated 2001 population level for the H2O Water Company service area is 793 and the estimated 2051 population level is 1,861.

C. Water Demand and Supply Quantities

As previously shown in Appendix C–M&I Sector Water Uses, it is estimated that water demand in the H2O Water Company service area would increase from 157 af in year 2001 to 368 af in year 2051. The projected water uses both by water source and alternatives are provided below in Table L-M&I-58. Based on anticipated water demands, the CAP water which would be allocated under the Settlement Alternative would provide 94 percent and 40 percent of the current estimated water supply required for the H2O Water Company service area for the years 2001 and 2051, respectively.

Table L-M&I-58
CAP Allocation Draft EIS Appendix L
H2O Water Company– Projected Water Use

Alternative	Annual CAP Deliveries		Groundwater		Effluent		CAGRD (Groundwater)		Total Demand	
Settlement Alternative	147	147	0	0	0	0	10	221	157	368
No Action	0	0	0	0	0	0	157	368	157	368
Non-Settlement Alternative 1	147	147	0	0	0	0	10	221	157	368
Non-Settlement Alternative 2	0	0	0	0	0	0	157	368	157	368
Non-Settlement Alternative 3A	0	0	0	0	0	0	157	368	157	368
Non-Settlement Alternative 3B	147	147	0	0	0	0	10	221	157	368
Note: A more detailed breakdown of supplies may be found in Appendix C.										

It is estimated that the demand for water at the end of the CAP contract period would be approximately 368 af. For all alternatives, there is estimated to be no unmet demand. In the Settlement Alternative, Non-Settlement Alternative 1 and 3B, 147 afa of demand are met by the additional CAP allocation. Alternatively, this 147afa of demand are met by CAGRD membership under the No Action Alternative and Non-Settlement Alternative 2 and 3A.

D. Environmental Effects

The following sections include a general description of existing conditions relating to land use, water resources and socioeconomics for each entity. The following summaries also include a description of the existing conditions and brief description of the impacts to

biological and cultural resources that would result from construction of CAP delivery facilities and conversion of desert and agricultural lands to urban uses.

1. Land Use

Land use data for the H2O Water Company were obtained based upon the review of 1998 aerial photographs and the result of the field surveys and habitat mapping completed as part of the biological analysis in this EIS. Table L-M&I-59 provides the projected acres of land within the H2O Water Company service area, which are agriculture, desert, or urban, and the number of acres expected to change from the existing category for the years 2001 and 2051.

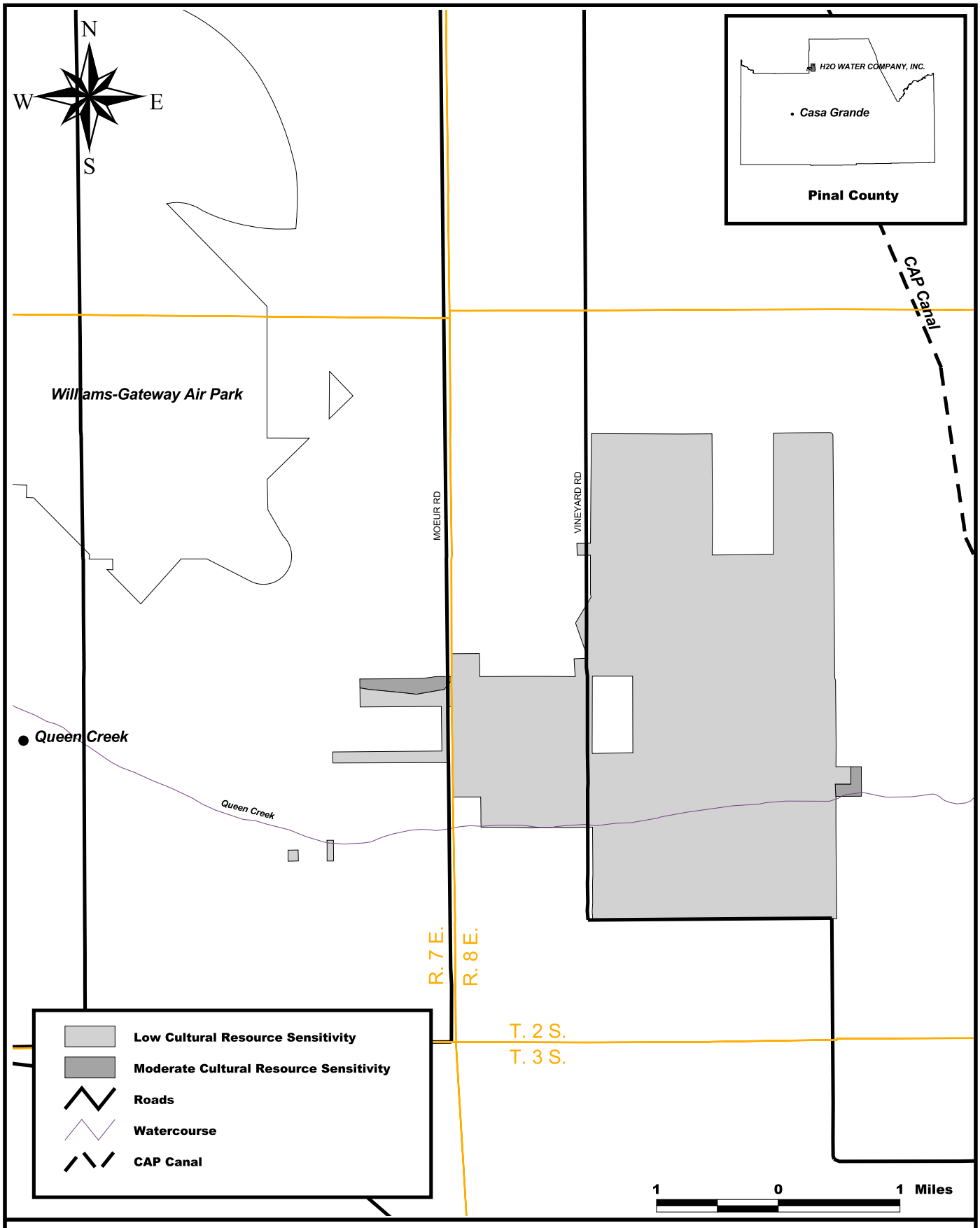
TableL-M&I-59
CAP Allocation Draft EIS
H2O Water Company– Projected Land Use Changes Within the Service Area (in acres)

Alternative	Year	Agriculture	Agriculture Urbanized	Desert*	Desert Urbanized**	Urban	Changes to Urban Acreage
Settlement Alternative	2001	0	--	0	--	5821	--
	2051	0	0	0	0	5821	0
No Action	2001	0	--	0	--	5821	--
	2051	0	0	0	0	5821	0
Non-Settlement Alternative 1	2001	0	--	0	--	5821	--
	2051	0	0	0	0	5821	0
Non-Settlement Alternative 2	2001	0	--	0	--	5821	--
	2051	0	0	0	0	5821	0
Non-Settlement Alternative 3A	2001	0	--	0	--	5821	--
	2051	0	0	0	0	5821	0
Non-Settlement Alternative 3B	2001	0	--	0	--	5821	--
	2051	0	0	0	0	5821	0

* Includes agricultural lands fallowed primarily due to economics.
** Include agricultural lands retired and subsequently urbanized.

2. Archaeological Resources

Only two projects have taken place within the H2O Water Company service area. These include a linear survey of the Southern Pacific Railroad right-of-way and survey of various parcels for the New Magma Irrigation and Drainage District (NMIDD) portion of Reclamation's Salt-Gila Aqueduct, CAP (e.g., Bontrager 1986; Marmaduke et al. 1983; Stein 1979). No sites are recorded within the service area; however, the Massera Site, a large Hohokam village with multiple mounds and a probable ball court, was originally documented by Frank Midvale as extending onto the westernmost portion of the service area. Although most of this site has been obliterated by agricultural activities, it is possible



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CAP Allocation Draft EIS
Cultural Resources
H2O Water Company

June 2000

Figure #L-M&I-30

that intact subsurface remains might be present below the plow zone. A second small area to the east of the H2O Water Company service area is surrounded by previously recorded prehistoric sites; similar resources might be expected within the service area. Historic resources, particularly sites associated with farming and ranching, also are likely.

Cultural resource sensitivity areas in the H2O Water Company service area are shown in Figure L-M&I-30. Based on the limited data used to generate the cultural sensitivity designations, the potential for cultural resource impacts in the H2O Water Company service area is low. Mitigation of cultural resource impacts due to urban expansion would be determined by local jurisdictions and development of applicable permit requirements (such as the CWA Section 404 permit). Impacts on cultural resources due to future land use changes would be identical for each of the five alternatives. Mitigation for such impacts would be dependent on the requirements of the local jurisdiction. If the additional CAP delivery pipeline is constructed as described above, no significant impacts to cultural resources are expected, since construction would be within a disturbed road corridor. Depending on the specific alignment and right-of-way required, Reclamation would determine whether additional cultural resources surveys are required.

3. Biological Resources

Existing Habitats

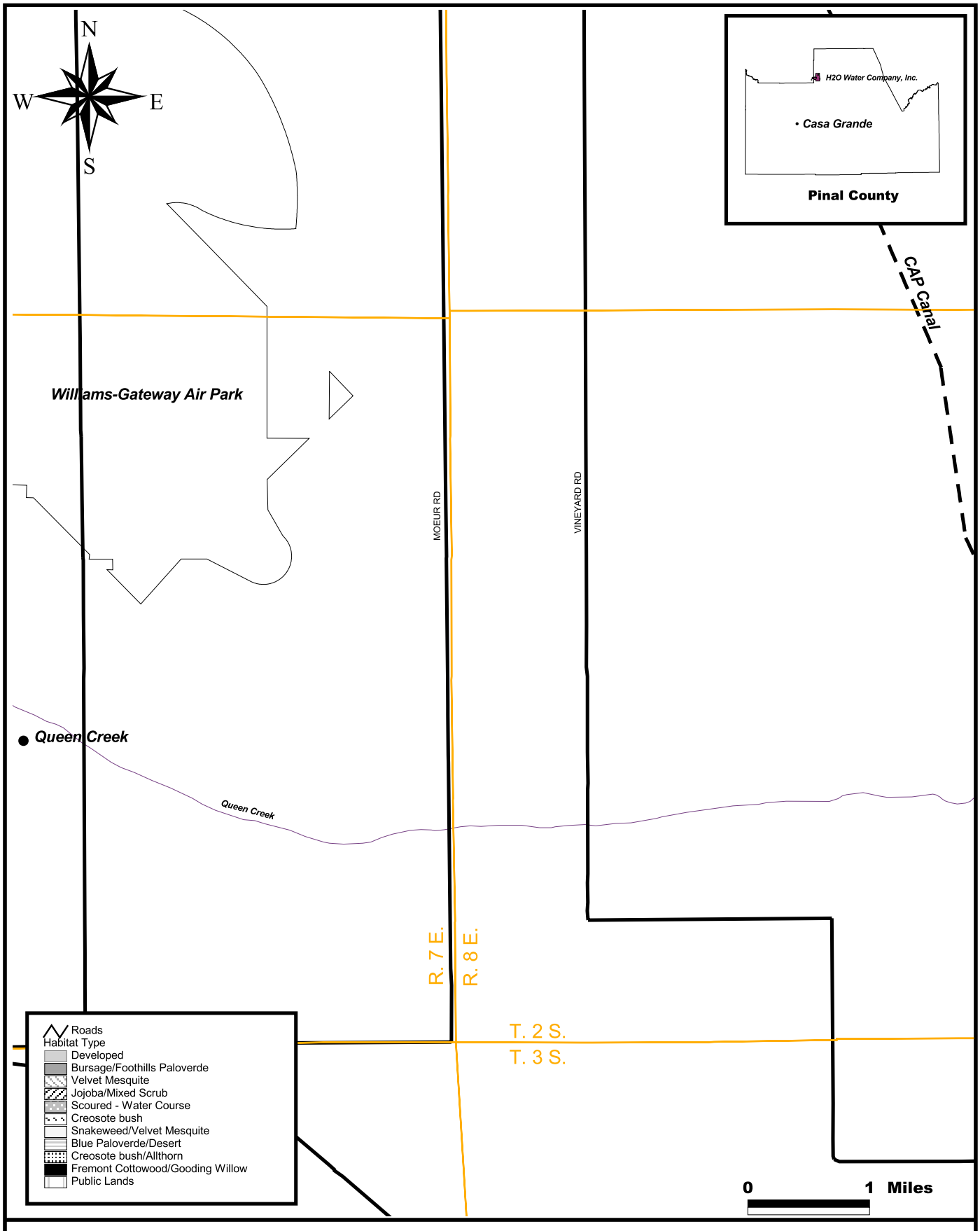
The H2O Water Company service area lies on silty plains below 1,500 feet in elevation that were probably once occupied by Creosote-bush Scrub Association. Today, the entire area outside of the Queen Creek channel has been developed for housing, agriculture, and industry. Vegetation along Queen Creek, which is ephemeral, is sparse with small stands of desert-broom, tamarisk, velvet mesquite, burrobush, and Frémont Cottonwood. The habitat zones located in the H2O Water Company service area are shown on Figure L-M&I-31. Table L-M&I-60 provides the habitat acreages in the H2O Water Company service area for the habitat zones described above.

Table L-M&I-60
CAP Allocation Draft EIS
H2O Water Company- Habitat Acreages

Vegetation Name	Acres
Developed	5,821
Total	**5,821**

Impacts to Biological Resources

Under the No Action Alternative, urban growth within the H2O Water Company service area over the 50-year study period would result in no additional loss of natural habitat. Under the action alternatives, there is no difference in the impacts from the No Action baseline. Biological impacts from CAP delivery facilities are expected to be minor, since the proposed pipeline construction would be along a road right-of-way and would only be



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CAP Allocation Draft EIS
Habitat Zones
H2O Water Company

June 2000

Figure No. L-M&I-31

one mile in length.

Potential T&E Species and Acres of Potential T&E Species Habitat

There is no potential suitable habitat for T&E species within the H2O Water Company service area.

4. Water Resources

Demands in the H2O Water Company have historically been met by pumping groundwater from the underlying basin fill. In more recent years, CAP water has been used to meet a portion of the demands. Groundwater levels have historically declined in this area in response to groundwater pumping, and a groundwater level depression is located in the general vicinity of the H2O Water Company. These declines have resulted in subsidence in this area. The concentration of TDS in the underlying groundwater is generally from about 500 to 1,000 ppm.

Estimated groundwater level impacts are summarized in Table L-M&I-61, which shows the estimated groundwater level change for the period from 2001-2051 for each alternative as well as the groundwater level impacts or the difference between the change in groundwater levels for each alternative relative to the change for the No Action Alternative.

Under the No Action Alternative, groundwater levels rise by about 44 feet through about 2051. Groundwater levels in the H2O Water Company are strongly influenced by activities in the QCID. The rise in groundwater levels reflects in part the interplay of a number of factors for QCID, including urbanization and changes in irrigated acreage due to economic considerations. The rise in groundwater levels would tend to eliminate subsidence. Also, the groundwater level rise in this area would eliminate the current local groundwater depression, which would tend to improve groundwater quality.

Groundwater levels in year 2051 under the Settlement Alternative and all Non-Settlement Alternatives would be lower than under the No Action Alternative, except for Alternative 1. As with the No Action Alternative, these groundwater levels reflect a number of different factors largely related to QCID, including urbanization and changes in irrigated acres due to economic considerations. There would be the potential for subsidence under the Settlement Alternative and Non-Settlement Alternatives 2 and 3A, due to the lower groundwater levels. There would also be the potential for adverse groundwater quality impacts under the Settlement Alternative, as a groundwater level depression would remain in the vicinity of the H2O Water Company.

Table L-M&I-61 CAP Allocation Draft EIS H2O Water Company–Groundwater Data Table		
Alternative	*	
	Estimated Groundwater Level Change from 2001-2051 (in Feet)	**Groundwater Level Impact** (in Feet)**
No Action	44	--
Settlement Alternative	-18	-62
Non-Settlement Alternative 1	53	8
Non-Settlement Alternative 2	-31	-75
Non-Settlement Alternative 3A	-27	-71
Non-Settlement Alternative 3B	1	-44

*****Values correspond to the Queen Creek sub-area, as discussed in Appendix I.
** Computed by subtracting the estimated groundwater decline from 2001 to 2051 for the No Action Alternative from the estimated change in groundwater level for the same period for the alternative under consideration. The estimated impact is considered to be more accurate than the estimated decline in groundwater levels.

5. Socioeconomic

The same population growth is supported under all alternatives, including the No Action Alternative. However, the cost of providing water may vary by alternative. Costs were estimated, on a per af basis, of providing the proposed allocations and, in their absence, alternative water supplies. The alternative water supplies include joining the CAGRD and, if needed, treating and reusing effluent. The difference in cost for this small increment of H2O Water Company's water supply is considered insignificant. It should be noted that the increment of demand met by the proposed CAP allocation is approximately 39.9 percent of the total year 2051 demand for the H2O Water Company.

Table L-M&I-62
CAP Allocation Draft EIS
H2O Water Company –Cost of Potable Water for Additional Allocation Increment

Alternative	Cost of Water ($ per af)	Water Source
Settlement Alternative	154[a]	CAP Allocation
No Action	221 – 225[b]	CAGRD
Non-Settlement Alternative 1	154[a]	CAP Allocation
Non-Settlement Alternative 2	221 – 225[b]	CAGRD
Non-Settlement Alternative 3A	221 – 225[b]	CAGRD
Non-Settlement Alternative 3B	154[a]	CAP Allocation

Notes:
a. Estimated average unit cost in year 2000 dollars.
b. Estimated range of unit costs in year 2000 dollars. Range is due to estimated change in groundwater pumping lifts during study period and does not include wellhead treatment costs.